

# NAVAL POSTGRADUATE SCHOOL

## Monterey, California



### THESIS

**COMPETING GOALS OF THE GOVERNMENTWIDE  
PURCHASE CARD PROGRAM: CUSTOMER  
SATISFACTION, VENDOR ROTATION, FAIR  
AND REASONABLE PRICING**

by

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June 1998

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CARD PROGRAM: CUSTOMER SATISFACTION, VENDOR  
ROTATION, FAIR AND REASONABLE PRICING**

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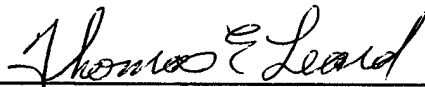
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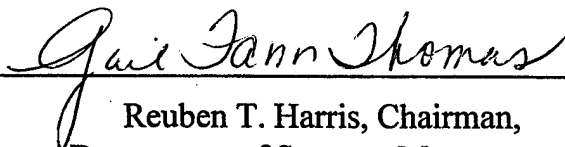
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## **ABSTRACT**

The rapidly developing Governmentwide Commercial Purchase Card (GCPC) Program primarily affects commercial procurements valued at \$2,500 or less, which comprise more than 90 percent of all acquisition transactions. It is considered a major contributor to streamlining the procurement process. The program is efficient, but little research has been done on its effectiveness. This thesis analyzed the Navy/Marine Corps Purchase Card Program by modeling the purchasing process, then determining if the program goals of customer satisfaction, rotating orders among vendors, and obtaining products and services at a fair and reasonable price were effectively achieved or whether goal conflicts in any way hindered full implementation of the program. Specifically, measurements were collected on goal achievement and goal congruence at the installation level using the Naval Postgraduate School (NPS) as an example. The NPS program was effective in achieving strategic goals. While end-users anticipated a potential problem meeting the goal of vendor rotation while also achieving customer satisfaction and a fair and reasonable price, there was actually no significant problem found in achieving all three goals. There was fundamental goal congruence. The methodology presented could be used for further research, potentially streamlining the program for other installations by determining the effectiveness of goal achievement.



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## **I. INTRODUCTION**

### **A. PURPOSE AND SCOPE**

This thesis offers a descriptive and evaluative analysis of the Navy/Marine Corps Purchase Card Program. Its goal is to determine whether the management control system, specifically comprised of the rules and regulations regarding the Purchase Card Program, is in any way a hindrance to the full implementation of the purchase card. There may be potential conflict between certain strategic program objectives that impact the program's effectiveness and efficiency. The concept is simple: identify basic barriers or burdens to the Purchase Card Program and recommend removal or improvement.

A current and significant issue common to both Contracting and Financial Management involves managing the rapidly developing Governmentwide Commercial Purchase Card (GCPC) program.<sup>1</sup> It primarily affects commercial procurements valued at \$2,500 or less, called micro-purchases. As of October 1997, all but a few exceptions of micro-purchases must be acquired with the GCPC. These micro-purchases fall within a spending or procurement price range guided by the simplified acquisition threshold (SAT) provisions which cover purchases between \$0-\$100,000. For purchases between \$2,500-\$25,000,

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<sup>1</sup> As a double major in Financial and Contract Management, the researcher found the purchase card as a common area of current interest to both HQMC Programs and Resources Division, and Installations and Logistics Division.

personnel in the contracting office can use the purchase card. Between \$25,000-\$100,000, the purchase card can be used by contracting office personnel as a payment method tool in connection with other documentation dictated by the SAT provisions. Many consider the purchase card a major contributor to initiatives that streamline the procurement process. "There are 21 million acquisition transactions in Government, ranging from buying pencils to the B-1 bomber. Only 2 percent have a value over \$100,000. More than 90 percent of purchases are under \$2,500." (Laurent, 1997, p. 1) Today, regulations and laws encourage purchase card usage to the maximum extent practicable. Yet, easing the rules on micro-purchases remains an important challenge because there are so many of them. The analysis not only shows that there is a problem, it also shows that the Purchase Card Program can be improved by implementing specific recommendations.

The scope of this thesis focuses on the relationship of three strategic objectives, as key variables, and examines how the Navy/Marine Corps Contracting Officers and Financial Managers can positively influence the Purchase Card Program. When examining procedures for the program, consideration must be given to the purchasing aspect involving the requisitioner and cardholder as key players. Foremost, Navy/Marine Corps requesters of products and services that are purchased with the "card" are well served by significantly more timely service which represents an aspect of customer satisfaction. This program goal must be

balanced in its relationship with two others. There is the requirement for rotation, spreading out orders among several commercial vendors. Each cardholder is required to rotate vendors as a socio-economic obligation of the Government, and to expand the “pool” of qualified sources. Finally, the procurement goal of obtaining products and services at a fair and reasonable price has always been a primary tenet of the Government procurement process. Again, the effort of this thesis will be to first describe the program. Second, the model of the purchasing cycle portion of the Purchase Card Program is used to isolate key program goals. Third, data are collected on goal achievement and goal congruence or conflict at the installation level. The Naval Postgraduate School (NPS) Purchase Card Program is used as the example. Finally, the thesis directly answers the research question through evaluative analysis.

## **B. RESEARCH QUESTION**

**How can the Navy and Marine Corps Purchase Card Program ensure the strategic goal congruence of customer satisfaction while rotating procurements among vendors, and achieving fair and reasonable pricing?**

## **C. SUBSIDIARY QUESTIONS**

1. How is a fair and reasonable price determined when there is a requirement to rotate purchases among qualified vendors?
2. In what ways do customers and cardholders perceive the notion of “rotating among vendors”?

3. What is the impact of avoiding fair and reasonable pricing, and rotation of vendors?
4. What price reasonableness and market research functions should be expected when conducting business using the Purchase Card Program?

#### **D. METHODOLOGY**

The research will explore two phases. The first phase collects data for descriptive analysis based primarily on course work and discussions with NPS professors, and a variety of professional experts who coordinate, authorize and use the Purchase Card Program. Additionally, a literature review will be conducted to understand the Purchase Card Program policy at all levels of the Navy and Marine Corps. The effort will be to isolate the key rules, regulations, goals and objectives comprising the internal management control of the program. The program's purchasing cycle will be modeled and key performance goals will be isolated, as variables, for study.

The next research phase will collect data for evaluative analysis based on a study of the NPS Purchase Card Program. The strategic performance goals will be tested in the NPS program to reveal potential or actual conflict between them, offer solutions, and recommend areas where the Purchase Card Program can be improved.

## **E. BENEFITS OF THE STUDY**

This research tests for potential conflict of Purchase Card Program goals and objectives as directed by the rules and regulations comprising the management control system and using a case study of the NPS Purchase Card Program. This goal conflict can hinder full implementation of an effective and efficient micro-purchase program. By modeling the Purchase Card Program process, and examining it in the context of the management control system, workable recommendations are offered to further streamline the program and enhance operational effectiveness and efficiency.

## **F. TERMINOLOGY AND DEFINITIONS**

The Navy and Marine Corps Purchase Card Program offers a new method of procurement and payment. It is new because of the expanded role of the cardholder in making authorized simplified acquisitions quickly, economically, and directly from the source of the product or service. The basic terminology and definitions, while not all-inclusive, are provided by Appendix to permit common understanding regarding the discussion of the Purchase Card Program and the goals under study.



## **G. ORGANIZATION OF THE THESIS**

Chapter I discusses the purpose, scope, methodology of the research effort. Definitions of fundamental terminology are provided by Appendix. Chapter II provides the background of the Purchase Card Program throughout the Federal Government. Chapter II also discusses how the Purchase Card Program and its goals were implemented initially by the Navy/Marine Corps, the steps that are required to obtain a Purchase Card Program, and an overview of the NPS Purchase Card Program. Chapter III describes the Purchase Card Program in the context of its management control system; offering a four-step technique for isolating the program goals as variables for study. It presents a model of the micro-purchase process using the purchase card. Chapter IV presents the detailed research methodology, and quantitative and qualitative measurements of those program goals through a case study of the NPS Purchase Card Program. Chapter V presents and analyzes the data; testing for potential conflict in the program goals. Finally, Chapter VI provides conclusions and recommendations and answers the research questions.

## **II. BACKGROUND**

### **A. OVERVIEW**

There is a renaissance ongoing in the Federal Government to re-engineer the way it does business, particularly procurement. A primary objective is to streamline the Government procurement process through electronic commerce (EC). This push toward EC is permeating the entire Federal Government acquisition system including the Navy and Marine Corps. One key feature of this EC architecture is the GCPC program.

The GCPC is also known by other names: the "Government VISA," the "International Merchant Purchase Authorization Card (IMPAC)," or "purchase card." For the purpose of this thesis purchase card is used throughout. The Purchase Card Program will be described from its inception through its implementation in the US Navy and Marine Corps within a management control system.

### **B. LITERATURE REVIEW**

The vast majority of literature discussing the purchase card is clearly focused on touting it as a significant and less costly way to buy commercial goods and services; a remarkable example of material efficiency. Since attention is focused on efficiency, little effort may actually be put into requiring changes to the

program that would enable the Navy/Marine Corps installation commander to be more effective in that context. While efficiency is judged in the literature to be of utmost concern, questions of effectiveness and the need to adapt to a changing environment are possibly overlooked.

### 1. Commercial Versus Full Military Environment

Many factors are external to an organization yet commonality of external factors contribute to determining a certain set of rules for operating in that environment. First, the environmental factors of the marketplace must be considered to separate commercial items from “full military” items. The full military environment does not represent an economic market that provides resources in the form of revenues. In the commercial environment, the buying behavior of the people determines what products are effective or not. Table 1 is a matrix showing how the environment, in which the Purchase Card Program works, is unique from the larger more traditional defense procurement environment.

<b><u>FACTORS</u></b>	<b><u>Commercial Environment</u></b>	<b><u>Full Military Environment</u></b>
Cost	Low	High
Lifespan	Short	Long
Market	Large	Small
Vendors	Many	Few
Interchangeability	High	Low

**Table 1. Commercial Versus Full Military Environment**

## **2. Efficiency Versus Effectiveness**

For commercial purchases, the literature finds the purchase card impressively efficient. In fact, a 1994 interagency study showed that labor and payment processing costs for micro-purchases were often cut in half. Other studies have identified millions of dollars in savings or potential savings from purchase card use. A 1996 General Accounting Office (GAO) report on the purchase card finds that the major impediment to greater use of the card is agency-imposed internal controls that tend to limit and hinder usage. (GAO, 1996, p. 2)

These efficiency findings are based on the way that the Purchase Card Program uses resources in the purchases of goods and services. Generally, resource utilization is measured in terms of costs and savings incurred by not wasting resources. However, issues of program effectiveness are not extensively dealt with in the literature. This thesis contends that the Purchase Card Program's effectiveness and efficiency are both necessary for a complete evaluation of the program's management controls.

Effectiveness is concerned with the extent to which the Purchase Card Program has achieved its goals. An assessment of the program is gained by comparing the actual achievement of program goals with its stated goals. Professor James Fremgen from the Naval Postgraduate School makes the point on effectiveness best: Effectiveness is the more important concern for an

organization or program. No one ever created an entity simply to manage its resources efficiently. If it is ineffective in attaining its goals, there is no comfort in the fact that it failed in the most efficient possible way. (Fremgen, 1997, p. 111)

### **C. HOW DID THE PURCHASE CARD PROGRAM START?**

In the past, purchase orders and procurement forms were required for all purchases. The “old system” meant long waits, high administrative costs, tracking difficulties, and a narrow range of vendors willing to accommodate the extra paperwork and slow payments for goods and services. In 1986, the Federal Government instituted a pilot Purchase Card Program under the direction of the Office of Management and Budget (OMB). It had five key goals:

- Simplify procurement
- Improve productivity
- Enhance internal controls
- Increase cash management and funds control
- Support Governmentwide operations (RMBCS, 1996, p. 1)

The Purchase Card Program goals of: “customer satisfaction,” “fair and reasonable pricing,” and “rotation of vendors” were established early in its development as strategic objectives of executive and legislative policy. By 1989, the purchase card idea was determined to be an extremely cost efficient means for

small purchases and OMB turned the program over to the General Services Administration (GSA) for Governmentwide implementation. DoD entered the program at that time. GSA has a contract with a bank (Rocky Mountain BankCard System (RMBCS)) that authorizes issuance of purchase cards to authorized Government personnel in support of official Government purchases. RMBCS in conjunction with GSA developed a unique set of Government specific controls as well as the name "IMPAC" and the program was launched. Emphasizing the role of the purchase card, in 1993, the Vice President's National Performance Review (NPR) entitled "From Red Tape to Results-Creating a Government that Works Better and Costs Less," identified the purchase card as a major acquisition reform and recommended that all Federal agencies increase its usage. The NPR established the overarching goal of customer satisfaction; delivery of the best value product or service to the customer on a timely basis, while maintaining the public's trust and fulfilling public policy objectives.

Congress enacted the Federal Acquisition Streamlining Act (FASA) of 1994, followed by the President's issuance of Executive Order (EO) 12931, of October 1994, on Federal procurement reform. FASA established a "micro-purchase threshold" of \$2,500, and reduced or eliminated most of the restrictions for purchases valued at or below that threshold. It identified the purchase card as the preferred method of making micro-purchases. As long as micro-purchases

meet the goal of fair and reasonable prices, they are exempt from the Buy American Act, certain small business requirements, and the general requirement for competition. However, FASA established the goal of rotating purchases equitably among qualified suppliers. EO 12931 directed agencies to expand the use of purchase cards and delegate micro-purchase authority to program officials and end-users, again emphasizing customer satisfaction. Also in 1994, the FAR, Part 13 was rewritten to implement these objectives.

Since 1994, the OMB issued at least two memorandums to agency senior procurement executives and the Deputy Under Secretary of Defense for Acquisition Reform (DUSD (AR)) that highlighted the benefits of the purchase card and encouraged agencies to expand the program. Also, interim changes to the FAR were issued that cite the purchase card as the preferred method for making micro-purchases and as an accepted method for making payments over the micro-purchase threshold. (DoD, 1996, p. 8)

Today, the purchase card is the cornerstone for DoD's small procurement environment. It is advertised as providing increased flexibility, convenience and control. (RMBCS, 1996, p. 1) Under the current contract, the bank (RMBCS) reimburses the individual vendors for purchase card purchases. Then, the DoD disbursing officers, primarily within the Defense Finance and Accounting Service (DFAS) make payments to RMBCS. This is a "win-win" situation. The

Government procures its needs more effectively and efficiently, and there is faster processing and payment to commercial vendors by RMBCS than in the past.

Reportedly, the Purchase Card Program provides the following benefits:

- Worldwide acceptability by vendors
- Immediate access to commercially available goods
- Streamlined procurement process
- Reduced Imprest Fund transactions
- Reduces Imprest Fund idle cash on hand
- Improved cash management and payment process
- Refunds on returned purchases
- Timely and thorough management reports
- Audit trail
- Reduced exposure to theft or fraud
- Decreased cost to process payments to numerous vendors if card is a payment tool. (DoD, 1996)

**D. HOW IS THE PURCHASE CARD IMPLEMENTED IN THE NAVY/MARINE CORPS?**

At the user level in the Navy and Marine Corps, it has been a challenge to implement all of the management controls for the Purchase Card Program. The unique feature of the Purchase Card Program is that it operates outside the



traditional procurement channels. Also, to be effective, the card must be in the hands of the user organizations, where it can be used most efficiently to fulfill customer requirements. Issues such as abuse, accountability and burdensome administrative requirements are always being addressed at the local cardholder level.

A card is issued in the name of a cardholder and a monetary limit is set on individual purchases as well as monthly and annual cumulative purchases. Additionally, limits are set on the types of vendors, and goods and services that a cardholder can purchase. These limitations are electronically verified when a purchase is made. For instance, gasoline can not be purchased with the card. If someone tries to use the card to purchase gasoline, ideally, he would be told by the sales clerk processing the card that the purchase was unauthorized. Therefore, the purchase could not be transacted with the card.

#### **E. STEPS TO GET A PURCHASE CARD PROGRAM**

Prior to RMBCS issuing a card, a Navy/Marine Corps activity must demonstrate its ability to implement program checks and balances that include the following procedures according to Naval Supply Instruction (NAVSUPINST) 4200.85C:

1. Obtain GSA GCPC Contract Guide.
2. Issue a delivery order against the GSA contract with RMBCS.

3. Formalize and submit an internal Purchase Card Program instruction.
4. Designate an Agency/Organization Program Coordinator (APC), Approving Officials (AO), cardholders, Designated Billing Office and Dispute Office.
5. Establish purchase request preparation, routing and approval process.
6. Establish limits for each cardholder (single purchase, billing cycle purchase, merchant type and transaction type) to assist in budget control.
7. Complete training required by Naval Supply Instruction (NAVSUPINST) 4200.85C.
8. Pre-check the supply system for item of interest, ensure funding and receive final AO approval.
9. Identification of sources (vendors) (FAR, Part 8).
10. Purchase.
11. Receipt and acceptance of item.
12. Monthly invoice reconciliation by the cardholder and AO.
13. Conduct internal review of program. (NAVSUPINST, 1996, Chap. 6)

**F. NAVAL POSTGRADUATE SCHOOL (NPS) PURCHASE CARD PROGRAM**

NPS is located at Monterey, California, and provides a unique case study. This part of the descriptive research introduces the NPS Purchase Card Program as an example of a Navy/Marine Corps installation. Representative of other

installation Purchase Card Programs, NPS uses the purchase card primarily to buy office supplies, tools, equipment, periodical subscriptions, and a variety of services. Similarly, the strategic program goals and purchasing cycle model can be found operating at NPS.

What makes NPS uniquely valuable for analysis is that in July 1997, it was awarded "Navy Purchase Card Program of the Year 1996." The award was for "superior performance" in producing "consistent customer satisfaction in supporting the mission of NPS and 24 tenant commands." (CO, NSAMB, 1997)

Today, there are over 185 cardholders in the NPS program, of which only 13 are within the Supply Department. More than 90 percent of micro-purchase actions are transacted through the purchase card. During most months, the cardholders generate 1,100 actions with the purchase card. The total dollar value of purchases averages over \$570,000. The last month of the fiscal year (September) may reach 1,500 actions at over \$1 million. NPS was awarded the highest grade possible in the tri-annual Procurement Management Review (PMR) inspection of the Command dated March 1996; no discrepancies were reported with the Purchase Card Program. The program is automated using the Navy Standard Automated Contracting System (SACONS) which enhanced property accountability and visibility of purchase card transactions. Uniquely, for a school, all printing requests are done through the purchase card. NPS was one of the first

installations to implement the Navy/Marine Corps' CD-ROM based training program. Training now is performed on an as needed basis, one on one with the APC. Additionally, cardholders have been trained and encouraged to use the Internet for purchases from GSA. One hundred percent of all new cardholders are audited monthly for the first quarter of their existence. Finally, the program at NPS and its influence within DoN are expanding. The APC has been requested by numerous other commands to provide valuable guidance on implementing their Purchase Card Program. (CO, NSAMB, 1997; Reed, 1998)

#### **G. SUMMARY**

Contracting efficiently and effectively is a primary goal of the Federal Government procurement process. The Navy/Marine Corps Purchase Card Program is part of a major ongoing programmed effort by the Federal Government to streamline the acquisition process and cut the costs of procuring and processing purchase card transactions, and paying commercial vendors. It is primarily used for values of \$2,500 or less; micro-purchases. These micro-purchases must be carefully managed to control costs, delivery, and quality as well as improve opportunities for business concerns to obtain a fair portion of Government contracts.

The program is lauded for reducing procurement and payment administration costs and lead-time. However, goal congruence concerning customer satisfaction, paying a fair and reasonable price for products purchased, and rotation of purchases among vendors is not clearly addressed. This chapter introduced the purchase card, from purpose, to historical development, to the benefits of using the card. It reviewed the current process that a typical Navy and Marine Corps unit uses to begin a Purchase Card Program. The trend is to further streamline the purchase card process by eliminating inefficiencies. There is a potential for conflicting program goals and objectives. Finally, this chapter provided the background for the NPS Purchase Card Program as a case study. Chapter III describes the Purchase Card Program in the context of a management control system and offers a model of the purchasing cycle in order to show how the key policy objectives interact with each other.

### **III. THE PURCHASE CARD MANAGEMENT CONTROL SYSTEM**

#### **A. OVERVIEW**

The purchase card problem can be operationalized, by examining it in the context of a controlled process/system. To operationalize the program goals is to apply a consistent meaning to them; an operational definition. (Levine, 1997, p. 12) Professor Robert Simons of Harvard Business school offers this definition of a management control system: the formal information-based routines and procedures managers use to maintain or alter patterns in organizational activities. (Simons, 1995, p. 5) Effective control systems, therefore, help managers direct and motivate the people in an organization to achieve desired objectives. Goal congruence is by far the most important test of a control system. If the goals conflict or represent tradeoffs, and some goals are ignored by the control system, then the end-users and cardholders will not only ignore those goals, but may take actions directly opposed to them. Therefore, the purchase card management control system is concerned with managing the interface between strategic objectives (as key variables) and organizational behavior. (Rotch, 1993, p. 198)

Conceptualizing a complex control system is made easier by systematically examining its interrelationships. There are four steps. First, and key to the analysis, is a good problem statement as provided by the research question in

Chapter I. Second, the variables in question must be defined as measurable. The third step is to ensure that data to answer the research question are collectable. Finally, a very useful tool for analyzing the Purchase Card Program is to model the purchasing cycle such that relationships between variables can be “sensed” or measured in order to explain the phenomena of the problem. The model captures the major aspects of the problem, and the entire analysis will reveal if the problem is already solved or if not, whether it is solvable.

## **B. ISOLATING THE KEY PROGRAM GOALS**

The second and third steps in examining the purchase card problem are combined here: ensure the variables under study are measurable and that the data are collectable. It is also helpful to identify whether the program goals are controlled “ex-ante” or “post-ante.” Ex-ante control means that the objective occurs with minimal additional imposition on the purchase process. An ex-ante control refers to a process that can operate efficiently on its own. Government regulation is viewed by some as more likely to aggravate inefficiencies and create new inefficiencies than to alleviate problems. Post-ante control means that the objective occurs because the control is imposed on top of the natural purchase card process. Here, the desired objective would not likely occur without control. A post-ante control is part of an activist view of policy that the process often operates

inefficiently on its own; Government regulation is viewed as making the purchase card process more efficient. (Stockman, 1996, p. 954)

### **1. Customer Satisfaction**

“Did the requester of goods and services get what he wanted, when he wanted it, and pay what he expected for it?” Customer satisfaction occurs when this happens. This is a post ante control: it encourages and empowers people to make good business decisions. It is a passive result of an effective purchasing cycle.

As a larger goal of the Federal acquisition system, satisfying the customer in terms of cost, quality, and timeliness of the delivered product or service is a primary standard of performance. Since the NPR, customer satisfaction, process management, and continual improvement have become fundamental objectives of Federal Government management systems. The principal customers are the end-users and line managers, acting on behalf of the American taxpayer and using the product or service. Customer satisfaction, therefore, involves the responsiveness and adaptability of the Purchase Card Program to customer needs, concerns, and feedback.

This focus on the customer is a unique aspect to the Purchase Card Program. It reflects a major cultural change within the Government workplace. Not only for the procurement people, the people that have traditionally done the



buying, but also for the customers or end-users. In effect, buys that are less than \$2,500 are major exceptions to traditional Government procurements. Customers go out and satisfy their own requirements without using the cumbersome procurement systems that have been erected over the years. (Navy/Marine Corps Purchase Card Training, 1996)

## **2. Rotation of Vendors**

“What is the spread of orders for similar products and amounts among several qualified vendors?” This implies Rotation. According to FASA and FAR, although competition is not required, micro-purchases shall be distributed equitably among qualified suppliers. (FAR, 1994, Section 13.602) This refers to the socio-economic obligation of the Government. As such, it is an ex-ante control: set up to avoid mistakes. It has little to do with empowering people to make good business decisions. This represents active regulation of the purchasing cycle.

Quantifying equitable distribution is a key issue. Qualified sources may be either small and/or large businesses. A quotation shall be solicited from a source other than a previous vendor before placing a repeat order, if practical. This is done using local advertisements, phone books, Chamber of Commerce, etc. Proper rotation implies that all qualified vendors known to the cardholder have an opportunity to do business. This questions the diligence of a cardholder to search

and add to the "known" list of vendors. If this is done correctly, the cardholder will not be partial to any one business. Of course, the cardholder should not rotate vendors if there is a risk of getting something the customer does not want. However, rotating vendors for a better price is suggested, or to get better service in the form of delivery or warranty. (Linser, 1998)

Rotation of vendors therefore, incurs a requirement for cardholders to conduct some sort of market research, not because they are required to compete purchases since the micro-purchases are below the \$2,500 threshold, but because it is important for cardholders to fulfill a social obligation to equitably distribute public dollars. They must know what is available in the marketplace and the best way to do that is to conduct some sort of market research so that one is able to rotate one's sources when a particular commodity is needed on a continuous basis. (Navy/Marine Corps Purchase Card Training, 1996) It is the job of cardholders to locate and establish several businesses to use for the purchases of material and services. However, they are to try not to use the same vendor repeatedly. Of course, priority should be given to local vendors, as long as they are able to provide fair and reasonable prices, and customer satisfaction.

### **3. Fair and Reasonable Pricing**

"Before completing a transaction, did a comparison of available options establish a price, warranty, delivery schedule and discounts that are better or equal

to those offered to a non-Federal Government commercial buyer?" This implies fair and reasonable price. This is a post ante control: set up to empower the end-user and cardholder to ensure that the Government buys supplies and services from responsible sources at fair and reasonable prices.

The FAR does not define "fair and reasonable price." To understand the phrase "fair and reasonable," two separate tests are implied -- 1) does the price meet the tests of "fairness," and 2) also the tests of "reasonableness."

"Fair to the buyer" means a price is equal or below the price one expects to pay, given the prices of the open commercial market between informed buyers and sellers, under competitive market conditions for products and services of similar quality and quantity. Fairness also considers that the firm is well managed, responsible and uses efficient and economical methods of performance. "Fair to the seller" means a price that is realistic in terms of the seller's ability to consistently deliver goods and services. (Air Force Institute of Technology, 1996, I-26)

A "reasonable price" is a price that a prudent and competent buyer would be willing to pay. Fundamentally, the open, unregulated forces of supply and demand, given general economic conditions and competition create fair and reasonable pricing. If demand is constant, decreasing supply usually results in higher prices, while increasing supply usually results in lower prices. If supply is

constant, decreasing demand usually results in lower prices, while increasing demand usually results in higher prices.

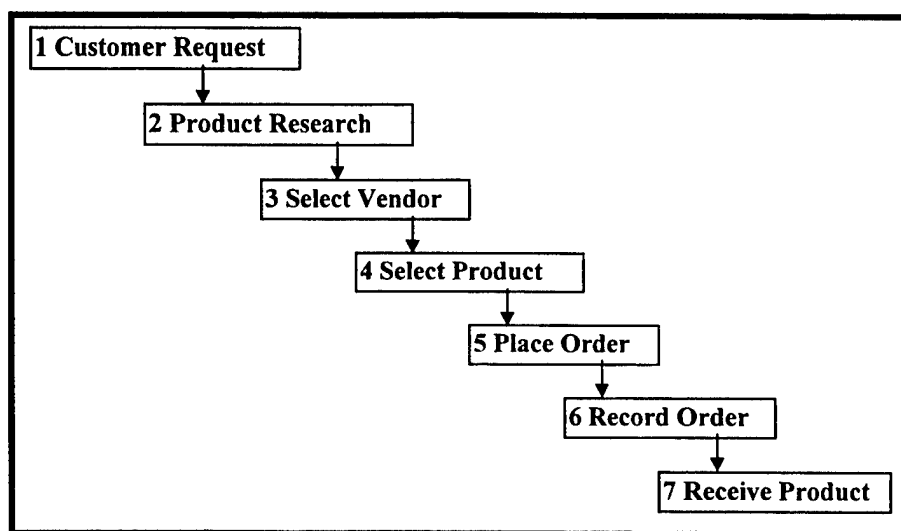
A determination of "fair and reasonable" is a matter of judgment. There is no simple formula for which one can plug in a few values and receive a firm answer of "fair and reasonable." Ultimately, determining "fair and reasonable" depends on commercial market conditions. Therefore, the test is: "Did you get the price you expected?"

Finally, according to the FAR, the administrative cost to verify price reasonableness for micro-purchases may more than offset potential savings from detecting instances of over-pricing. Therefore, action to verify price reasonableness is on an exception basis and need only be taken if the price is suspected to be unreasonable or, there is no comparable pricing information readily available. (FAR, 1994, Section 13.603) The cardholder uses professional judgment and a comparison of price to market catalog prices, previous purchases available price lists, advertisements, etc. In effect, the commercial market forces are considered an adequate control of prices for micro-purchases.

#### **C. PURCHASE CARD PROCESS MODEL**

The fourth step in examining the goal congruence of the Purchase Card Program is to model it as a process and highlight the three variables under study.

The model of the program further operationalizes the variables and reveals them for examination; illustrating the Purchase Card Program as a seven-step process and providing a context for assessing program effectiveness and efficiency. Figure 1 offers a simple line graph model of the process, and followed by a description of each step (underlines added to highlight variables).



**Figure 1. Purchase Card Process Model**

### **1. Customer Request**

This involves measuring the time, method and nature of the customer request to meet a requirement. Achieving the goal of customer satisfaction begins with the customer request at the start of the procurement process.

With the purchase card, the end-user is the customer and requisitioner. So, the customer begins the purchasing cycle by preparing an adequate Purchase Request Document (PRD). Using the PRD, the customer should consolidate

similar or like requirements, and shall not split known requirements into separate purchase requests. The PRD is the document that formally transmits the requirement to the cardholder. The cardholder uses the PRD to document additional key information in the purchasing cycle.

An adequate PRD for a micro-purchase must include at least: Date of Request; adequate purchase description for each line item with: start date; completion date; estimated price; estimated total amount for the item or service on the PRD; performance information; name and phone number of cognizant technical person; funds (line of accounting); Requisition or Job Order Number; evidence of clearances, waivers and special approvals, if applicable; and the customer's approval signature and date. (Air Force Institute of Technology, 1996, I-28)

## **2. Product Research**

Product research involves consulting readily available data on sources of supply, price, past performance, and quality. At this step, there is emphasis on measuring the amount of time spent on market research compared to the potential benefit (lower price, better quality product and service).

Among other things, PRDs specify the requirement and include the end-user's best guess of the price. This is the first price obtained in the fair and reasonable price determination process. Therefore, price analysis is a subjective

evaluation. For any given purchase requisition, different bases for price analysis may give a different view of price reasonableness. The price estimate is logically the responsibility of the requester. The prices of commercial products are defined by commercial market competition, and the quality of the estimate usually depends on the quality of the market research. The following techniques are used for the price estimate:

- Phone call to possible vendors.
- Catalogs.
- Historical data (price last paid) less than 30-days old.
- Historical data more than 30-days old.
- Institutional discounts and/or price breaks.

The following information is typically used for the price estimate:

- Professional judgment.
- Detailed understanding of the product or marketplace.
- Catalogs and generally available product literature.
- Other knowledgeable individuals.
- Interactive on-line communications.

### **3. Select Vendor**

Cardholders must select vendors with a sound reputation for quality, service and price. The cardholder or procurement officials may determine the “qualified vendor” at some installations. This is where rotation of vendors must occur. Additionally, multiple quotes are obtained when price reasonableness is in question.

The end-user also helps the cardholder to review alternative sources and products available, identify potential price-related factors with the purchase, account for disparities in comparing prices, and vendors. In addition, the end-user is typically more knowledgeable about the product and a better source for an estimate than the cardholder or AO. It is in the personal interest of the end-user to be knowledgeable regarding what best satisfies his needs.

If the vendor cannot provide the total requirement on time additional sources should be found. If the vendor’s price does not seem to be reasonable, solicit other quote(s) or ask the vendor how he/she determined the quoted price to be a fair and reasonable charge, and if the pricing is the same as offered to their most favorable customer.

Cardholders and AOs are the ones with the actual authority to make the purchase. The ultimate decision on price reasonableness and vendor selection rests



with them. Therefore, it is the end-user, cardholder and AO who must be satisfied that the price is fair and reasonable from a qualified vendor. This leads to price reasonableness; a cardholder's careful review of the end-user's price estimate before making the purchase. Sometimes it might be necessary to document the file concerning the rationale used in making a fair and reasonable price determination, and selection of vendor.

#### **4. Select Product**

The objective is to select a product that will satisfy the customer. There are no formal criteria that enumerate detailed specifications required by the customer, but an adequate description of what is required is critical for the cardholder to fill the order. Additional factors considered are product and price characteristics such as shipping costs, rebates, energy efficiency, repair costs and product life.

#### **5. Place Order**

In placing a customer's order, the cardholder must avoid things such as: prohibited terms such as cash on delivery (COD), paying sales tax, higher price for card processing. Also, "place the order" includes the functions relating to maintaining documentation and providing information to property control.

The typical way to use the Card is to place a phone order and have the vendor deliver the item or provide services at the designated place of performance by the required performance date. The Government issues no written purchase

order or contract. The vendor provides the purchased requirements and payment is made using the Purchase Card. When placing a telephone order to be paid using the Purchase Card, the cardholder shall: notify the vendor that the purchase is tax exempt; confirm that the vendor agrees to charge the purchase card after delivery or when work is complete. (This is so that the receipt of the items/services may be certified on the monthly SOA); instruct the vendor to include the following information on the invoice which will alert the APC, AO and cardholder that the requirement has been acquired with the purchase card:

- Name and address of vendor.
- Cardholder name, telephone number, and office symbol.
- Building number, room number, street address, city, and state.
- Date of order.
- Requisition number/order number.
- Dates of performance or completion.
- Itemized list of services/construction performed.

#### **6. Record Order**

The cardholder must use receipts or records that provide for the product name, description, manufacturer, purchase date, location and price. There is no apparent record of quality and service at this step. All oral transactions will be

documented on a log. The documentation should be held until the monthly billing statement is received and then attached to the statement when it is submitted to the AO.

## **7. Receive Product**

Similar to customer request, the time, method and nature of product receipt is key to customer satisfaction. The PRD is typically annotated by the cardholder documenting receipt of the product.

## **D. SUMMARY**

This Chapter operationalized three strategic Purchase Card Program goals as measurable variables relating to each other within a model. A four-step process was developed to examine these interrelationships and aid in determining how to collect and measure data. The purchasing cycle model showed who and what key documentation are used to control the process; the PRD, customer, and cardholder. Chapter IV presents the research methodology for the collection and actual measurement for each variable within the NPS Purchase Card Program. This supports or refutes the existence of the thesis problem of goal conflict.

## **IV. RESEARCH METHODOLOGY**

### **A. OVERVIEW**

This chapter discusses the various methods used for data collection. Measures of the program goals (customer satisfaction, rotation of vendors, and fair and reasonable pricing) are formulated to provide evidence of operational effectiveness for each goal within the NPS Purchase Card Program. The measures essentially test for goal congruence and the effectiveness of the management control structure. The program goals can fit together well and function effectively, or fit poorly and lead to problems and dysfunctional performance. This chapter provides the raw data results from those tests.

Chapter III revealed that the management controls of the program goals under study operate at the point at which a micro-purchase with the card occur, described as the micro-purchase cycle. The micro-purchase cycle is the sequence of related transactions associated with the Purchase Card Program. Therefore, research focused on the end-user, cardholder, PRDs, and the APC's internal Audit Reports for controlling the process. One way of looking at these tests of program goals is to consider formulating tests based on four types of evidence: physical, testimony, documentary, and analytical. Simply put, physical evidence is obtained by what the researcher sees from observing the purchase card process. Testimony

represents evidence from statements by people, both inside and outside the organization, who are knowledgeable about the process. Documentary evidence is obtained by reviewing key documents such as the PRD and Audit Reports of cardholder and end-user actions. Analytical evidence is created by the researcher calculating variances between the end-user's price estimate and the cardholder's actual price paid.

The research methodology consisted of the following eight graduated techniques. Descriptive analysis primarily resulted from the first five techniques. This was the familiarization with the Purchase Card Program from enacting legislation and executive policy through DoN policy and NPS' "award winning program" at the installation level. Evaluative analysis essentially resulted from a case study of the NPS Purchase Card Program using the final three techniques. This was accomplished by developing tests to gather specific evidence of successful or unsuccessful achievement of the strategic goals in question. Obtaining relevant, sufficient, and complete evidence is the research intent. The research is designed to reveal solutions and show key areas where the Purchase Card Program can be improved. Every research method has flaws, so the research strategy employed complementary techniques to overcome or minimize any limitations imposed by the selected methodology.

## **B. DESCRIPTIVE RESEARCH METHODS**

1. Discussions with three NPS professors were used to draw dimensions for the research subject area and determine a depth for the analysis and an analytic approach (Dr. Kenneth Euske in MN4161 "Management Control Systems," Dr. David Lamm in MN3304 "Contract Pricing and Negotiation," and Dr. James Fremgen in MN4151 "Internal Control and Auditing)."

2. A literature search to see what others had done on this or similar topic area was conducted. The archival research consisted primarily of a review of existing Federal Government and Navy/Marine Corps policy, Federal level studies, and individual thesis and published articles. The effort was intended to isolate the key rules, regulations, and goals and objectives that control the Purchase Card Program.

3. Telephonic discussions were held with the Department of the Navy Purchase Card Program Coordinator and Marine Corps Purchase Card Program Coordinator in Washington, DC, and Marine Corps Regional Contracting Officer and Deputy Regional Contracting Officer, Kansas City, Kansas. Additionally, electronic mail was used from the Marine Corps Regional Contracting Officer, New Orleans, Louisiana. These communications assisted in outlining the competing goals and objectives of each Purchase Card Program.

4. Discussions were held with personnel from the NPS Supply and Purchase Card Program. Similarly, discussions were also held with several Navy and Marine Corps Supply Officer students familiar with the Purchase Card Program.

5. Using descriptive analysis, data were used to first understand the broader aspects of the Navy/Marine Corps Purchase Card Program, and then develop a basic model for the purchasing cycle. The analysis focuses on the basic concepts and issues of price reasonableness, vendor rotation and customer satisfaction within the Purchase Card Program, to operationally define these as measurable variables.

### **C. EVALUATIVE RESEARCH METHODS**

1. The researcher conducted a hands-on “participant observer” experiment as a cardholder in the NPS Purchase Card Program. Here, the researcher examined NPS micro-purchase record data and even participated in the one-day training process for a typical cardholder. The researcher assumed the role of a cardholder in order to confirm or deny the assumptions made and provide unique first-hand insight into the variables under study in the control system. The researcher attended an APC internal audit of a typical cardholder. The NPS Contracting Office provided a year of Audit Reports and other record data, which

permitted a review of local procedures. The way that fair and reasonable pricing, and vendor rotation was achieved with and without using the purchase card for micro-purchases were both considered. Also, working with the key purchase card personnel permitted a determination regarding the measurement of customer satisfaction with the purchase card. This used a combination of opinion, empirical and archival research providing physical, testimonial, and documentary evidence of management controls. The strength of the interview method was in getting first-hand impressions and beliefs from the field environment that lent itself to statistical procedures and analytical evidence. To counteract biases in opinions and influences by the questioning method, archival research techniques were used to examine the NPS Purchase Card Program files and records and subject the findings to statistical analysis. Extensive personal training and interviews of NPS Purchase Card Program personnel were used to enhance the researcher's abilities to retrieve and assess the correct files. The strength of this method is that the researcher examined certain aspects of the Purchase Card Program control system through personal involvement, then made reality-based assessments. Limitations to this method are that it was only in the present and the researcher may have brought biases into his observations.

2. Opinion research, which was based on questionnaire surveys of end-users (customers) of the NPS Purchase Card Program, was used to measure the



perceptions and impressions of the model and interrelationships of the variables. NPS faculty Purchase Card Program personnel validated the questionnaire by participating in its development. The cardholders and end-users of the second largest purchase card account at NPS were surveyed to “sense” the variables under study by refining the basic questions: Customer satisfaction -- “Did the requester of goods and services get what they wanted, when they wanted it, and pay what they expected for it?” Rotation -- “Were orders for similar products and amounts spread among several qualified vendors according to regulations?” Fair and reasonable price -- “Before completing a transaction, did a comparison establish price, warranty, delivery schedule and discounts better or equal to that offered to a non-Government buyer?” The responses to the opinion research were also used to validate the descriptive analytic effort. The medium for conducting the research was an internal mail delivered survey with responses being dropped-off in a local, easily accessible mailbox to permit the anonymity of the respondents. All participants were initially contacted via personal visit or note to explain the research and request their participation. To minimize self-selection bias, follow-up personal visits were conducted in an attempt to ensure maximum participation.

3. Using simple induction and deduction techniques, data were gathered and analyzed for maximum inferential explanation. The explanation of data demonstrates to managers of the Purchase Card Program the central idea that

the program can be modeled and, that there is potential conflict between program goals and objectives. Basically, the analysis reveals that the problem is not a random occurrence and it is significant enough to be addressed. This analytic research also indicates where problems are actually trivial and irrelevant, therefore not worth further effort.

#### **D. TESTS OF PROGRAM GOALS AND RESULTS**

The model depicted in Chapter III is simply a sequence of activities in the micro-purchase process using the purchase card. The management controls for program goals must be tested around those activities. The researcher first identified the key program goals as variables to be measured. Second, the goals were analyzed and operationally defined in a precise, scientific manner such that they are qualified, quantified, manipulated and related. This section reveals how tests of the program goals within the NPS Purchase Card Program were made.

In planning the tests of the NPS program goals, the scope of effort was greatly influenced by information formulated by the two tasks, developing measures and measurement criteria, and sample design. These ensure that the right questions are asked of the right people, and the right management control documentation is reviewed. (GAO, 1993, p. 21) Since, the researcher found no NPS or Navy/Marine Corps performance measures for the program goals nor set

criteria for evaluating them, he used his judgment regarding appropriate measures and reasonable criteria. Performance measures must be compared to some criteria or standard. The researcher chose a percentage of goal achievement.

The researcher's participant/observer experiment was used to verify assumptions and the model for overall data measurement. A questionnaire survey of end-users was primarily used to test for customer satisfaction, though it also covered all three variables under study, and validated the purchase process model. A review of actual audit reports on cardholders by the APC was primarily used to test for vendor rotation. A comparison of customers' Purchase Requisition Documents (PRDs) to cardholder invoices was primarily used to measure fair and reasonable pricing.

#### **1. Survey of NPS Purchase Card Program End-User**

Given the specific objective of testing for the program goal of customer satisfaction, the researcher wanted to determine the extent of customer satisfaction for the end-users. A sample opinion survey of end-users was taken. Consideration was given to scientifically select a sample of the end-user population, so that the population itself can be discussed rather than just the individuals contacted. The questionnaire was drafted and tested and reviewed with the thesis advisor. The researcher found the Systems Management Department at NPS to be the second largest cardholder account. As such, it was considered to be representative of the

end-users in the entire NPS Purchase Card Program. In addition to testing for customer satisfaction, the questionnaire also collected evidence on vendor rotation, and fair and reasonable pricing determinations. The measurement criteria used for determining whether the evidence is material is a .10 frequency. This means that if, in the aggregate, the sample response is distributed more than 10 percent in a category answer, it is considered "material," or significant enough for further evaluation and interpretation. For instance, when a sample end-user was asked, "I usually get the items I requested to be purchased," .28 respondents "agree" and .64 respondents "strongly agree." The results are considered material. However, for the same question, .04 respondents answer "disagree" and .04 respondents "strongly disagree." These results fall beneath the researcher's threshold for material significance and are, therefore, not considered significant enough for further evaluation. The researcher used a 100-person sample, and achieved a 28 percent response rate to the questionnaire survey. The questionnaire and percentage distributions of responses are presented in their entirety.

### **Demographic Questions**

1. I am:
  1. Civilian = .92 (average/mode)
  2. Military = .08
1. My years of experience requesting purchases within the Government at NPS for items less than \$2,500 in price:

1. 0 = .04
  2. 0 to 2 (1996) = .32
  3. 2 to 9 (1989) = .28 (average)
  4. 10 or more = .36 (mode)
3. My years of experience requesting purchases within the Government from anywhere for items less than \$2,500 in price:
1. 0 = .12
  2. 0 to 2 (1996) = .24
  3. 2 to 9 (1989) = .20 (average)
  4. 10 or more = .44 (mode)
4. My amount of schooling/courses on small purchases/purchase card use is:
1. none = .52 (mode)
  2. simple in-house orientation = .44 (average)
  3. formal schooling/course(s) = .04

### Customer Satisfaction Questions

**The following questions ask how much you agree or disagree with a statement. Pick the answer that best fits your opinion, and circle its number.**

1. I usually get the item(s) I requested to be purchased. (Did you get what you wanted?)

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = .04	2 = .04	3 = 0	4 = .28 (average)	5 = .64 (mode)	6 = 0

2. I usually get the item(s) I requested when I wanted it/them. (Did you get it when you wanted?)

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = .04	2 = .08	3 = .08	4 = .44 (average)	5 = .36 (mode)	6 = 0

3. The price finally charged for the items requested, is what I expected to pay. (Did the vendor charge the Government what you expected?)

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = .04	2 = .08	3 = .04	4 = .48 (average/mode)	5 = .36	6 = 0

4. Filling out a Purchase Request Document takes a reasonably small amount of time to fill out correctly. (Does it take a relatively small amount of time to fill out a PRD correctly?)

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = .08	3 = .16	4 = .44 (average/mode)	5 = .32	6 = 0

5. I consider the Purchase Card Program as much easier for me to use, relative to the old way of making my purchases for less than \$2,500 in price per item.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = 0	3 = .08	4 = .08	5 = .72 (average/mode)	6 = .12

6. I consider the amount of paperwork required to submit a Purchase request for the commercial item(s) I need for less than \$2,500 per item as easy to follow and a benefit of the program.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = .04	3 = .12	4 = .32 (average)	5 = .48 (mode)	6 = .04

7. The time I spend on recommending vendors and estimating prices for the commercial item(s) I request be purchases for less than \$2,500 is useful in determining a fair and reasonable price for the Government and that the product meets my needs.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = .04	2 = .16	3 = .20	4 = .16 (average)	5 = .28 (mode)	6 = .16

8. I have found that item(s) purchased for me with the Purchase Card have been from the most advantageous vendors, those that offer satisfactory quality, service, and prices.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = .04	2 = .04	3 = .12	4 = .36 (average/mode)	5 = .32	6 = .12

9. I consider the Purchase Card Program goal of "customer satisfaction" for me the end-user of commercial purchases made for less than \$2,500 as important.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = 0	3 = .08	4 = .20	5 = .68 (average/mode)	6 = .04

10. I estimate the days it takes from submittal of my Purchase Request to receipt of item(s) as:

1-2 days	2-3 days	3-4 days	4-5 days	5-6 days	More than 6 days
1 = 0	2 = .08	3 = .08	4 = .12	5 = .04 (average)	6 = .68 (mode)

### Rotation of Vendor Questions

1. I regularly recommend the same vendor/source for the item(s) I request be purchased of similar type product and quantity.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = .24	3 = .20	4 = .36 (average/mode)	5 = .08	6 = .12

2. I have found that some vendors dislike doing business with the Government Purchase Card.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = .28	3 = .28	4 = .04 (average)	5 = .04	6 = .36

3. I consider the Purchase Card Program performance goal of "rotating purchases for less than \$2,500 among vendors" (a socio-economic obligation for the Government) as important.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = .36	2 = .28	3 = .04 (average)	4 = .04	5 = .08	6 = .20

4. I consider the Purchase Card Program goal of "rotating purchases for less than \$2,500 among vendors" to have negatively impacted on me getting what I want, and/or when I wanted it, and/or for the price I expected to pay.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = .20	3 = .28 (mode)	4 = .24 (average)	5 = .16	6 = .12



### **Fair and Reasonable Pricing Questions**

1. I provide my best price estimate for the item(s) requested to be purchased.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = 0	3 = .28	4 = .40 (average)	5 = .48 (mode)	6 = .04

2. I make a good effort to ensure the Government purchases my supplies and services from responsible sources at fair and reasonable prices.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = 0	3 = 0	4 = .28	5 = .64 (average/mode)	6 = .08

3. I believe the price paid for the item(s) on my purchase requests is equal or below the fair market value.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = .16	3 = .08	4 = .40 (average/mode)	5 = .24	6 = .12

4. I regularly check local advertisements or vendor catalogs to estimate the price(s) of the item(s) I request the Purchase Office to purchase for less than \$2,500 per item.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = .04	3 = .04	4 = .48 (average/mode)	5 = .40	6 = .04

5. I regularly check the historical price(s) that were paid for item(s) to estimate the price(s) of the item(s) I request the Purchase Office to purchase for less than \$2,500 per item.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = .08	2 = .28 (mode)	3 = .16 (average)	4 = .28 (mode)	5 = .08	6 = .12

6. I regularly make phone calls or visits to vendors to estimate the price(s) of the item(s) I request the Purchase Office to purchase for less than \$2,500 per item.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = .04	2 = .28	3 = 0	4 = .32 (average/mode)	5 = .28	6 = .08

7. I consider the vendor(s) I list on my Purchase Request are well managed and responsible.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = 0	3 = .04	4 = .36	5 = .44 (average/mode)	6 = .16

8. I consider shipping and/or handling charges in providing a price estimate for the item(s) I list on my Purchase Request.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = .04	2 = .12	3 = .16	4 = .40 (average/mode)	5 = .24	6 = .04

9. I look for discount prices for the item(s) I submit on my Purchase Request.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = .04	3 = .04	4 = .52 (average/mode)	5 = .40	6 = 0

10. I consider customer service and warranty guarantees more important than lowest price for the commercial item(s) I request be purchased for me for less than \$2,500 per item.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = .04	3 = .28	4 = .28 (average)	5 = .40 (mode)	6 = 0

11. I consider timeliness of delivery more important than lowest price for the commercial item(s) I request be purchased for me for less than \$2,500 per item.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = .08	3 = .36	4 = .40 (average/mode)	5 = .16	6 = 0

12. I consider the Purchase Card Program goal of paying a "fair and reasonable price" for my requested purchases for less than \$2,500 as important.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = 0	3 = .16	4 = .32	5 = .36 (average/mode)	6 = .16

13. I consider the Purchase Card Program goal of paying a "fair and reasonable price" for my purchases less than \$2,500 to have negatively impacted on me getting what I want, and/or when I wanted it, and/or for the price I expected to pay.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = .08	2 = .40 (mode)	3 = .36 (average)	4 = .08	5 = .04	6 = .04

**For the following pick the answer that best fits your opinion, and circle its number.**

14. I typically research the product I need by using one or more of the following (circle as many as applicable):

Newspaper Ads	Magazine Ads	Trade Journals	Manufacturer's Catalog	Telephone Yellow Pages	Other Knowledgeable People
1 = .28	2 = .64	3 = .28	4 = .56	5 = .08	6 = .60

My Purchase Cardholder	Phone Call	Historical Data	Professional Judgment	Computer On-line Communications	Other
7 = .27	8 = .48	9 = .28	10 = .28	11 = .44	12 = .04

### General Questions

The following questions ask how much you agree or disagree with a statement. Pick the answer that best fits your opinion, and circle its number.

1. I consider whether funds are available prior to submitting my Purchase Request. (I ensure I submit a funded Purchase Request).

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = 0	3 = 0	4 = .28	5 = .72 (average/mode)	6 = 0

2. Before filling out my Purchase request, I compare vendors and prices of the commercial item(s) I request be purchased for me.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = 0	2 = 0	3 = .08	4 = .52 (average/mode)	5 = .40	6 = 0

3. There is actual or potential conflict among the Purchase Card Program goals of: 1) customer satisfaction; 2) rotation of purchases among vendors; and, 3) obtaining fair and reasonable pricing.

Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Not Applicable/ Don't Know
1 = .04	2 = .16	3 = .08	4 = .44 (average/mode)	5 = .24	6 = .04

## 2. Survey of Purchase Card Program Audits

Given the specific objective of testing for the program goal of rotation of vendors, the researcher wanted to determine the APC's measure of this performance goal for cardholders. Vendor rotation is specifically inspected by the APC's internal auditing process. The NPS APC audits every established cardholder account twice per year and every new cardholder monthly for the first quarter. Therefore, an examination of the APC file of cardholder audits for one year from the entire NPS program was used to determine if cardholders are rotating vendors. Since, an existing test for vendor rotation already exists to provide documentary evidence, there was no need to "reinvent the wheel." The audit performance measures are either "yes" or "no" to a particular question.

Similar to the questionnaire measurement criteria discussed previously, a determination regarding material significance is based on a survey of audit results having a .10 frequency. Again, this means that if, in the aggregate, the same response occurs more than 10 percent in a category answer, it is considered significant for further interpretation. For instance, when a sample of the audit question "Did cardholder rotate the vendor?" has a .99 frequency response of

“yes,” it is considered very material. However, for the same question, with .01 frequency the answer is “no.” These results fall beneath the researcher’s materiality threshold and are not considered significant enough for further evaluation. The 10 percent materiality check as a relative criterion, because an absolute one does not exist. A random sample of 100 audit reports conducted by the APC auditor, Ms. C.C. Reed, between April 1997 to February 1998 was used to measure the areas of the NPS Purchase Card Program which cause the most problems for management control. The questions and frequency of a yes or no answer are provided.

<b>NPS APC AUDIT QUESTION</b>	<b>YES</b>	<b>NO</b>
1. Does each have an award and requisition form?	.99	.01
2. Did approving official sign the award sheet?	.90	.10
3. Are all necessary approvals attached to each order?	.97	.03
4. Did cardholder split orders?	.02	.98
5. Is each order under \$2,500?	1.00	0
6. Are invoices/packing slips attached?	.89	.11
7. Was receipt of material signed and dated by end-user?	.74	.26
8. Was sales tax charged to purchase?	.01	.99
8a. If so, was vendor notified for refund?	1.00	0
9. Was buy under the guidelines of the NAVSUP “can buy” list?	.99	.01

10. Were all purchases well documented?	.86	.14
11. Did cardholder rotate the vendor?	.99	.01
12. Was a partial order received?	.18	.82
12a. If so, were the remaining item(s) canceled?	.89	.11
13. Were Government pick-ups documented?	.98	.02
Was award entered into SACONS within 24 hours of award?	.83	.17
Does cardholder have order(s) older than 60 days for delivery?	.03	.97
16. Was buy for hazardous material?	.03	.97
16a. If so, was it on the approved item list?	1.00	0

### **3. Price Variance of End-User and Cardholder**

The test for the program goal of fair and reasonable pricing must determine whether the price estimate in the PRD supports a fair and reasonable pricing decision. According to the Purchase Card Training Program completed by the researcher, it is the cardholder who has responsibility to make sure that the price that is paid is fair and reasonable. Extensive market research is not required because the cost of the buy versus the amount of time it is going to take to do market research is considered. However, a cardholder may want to call another vendor and compare the price obtained from the end-user estimate. Or, a cardholder may check catalog prices to ensure the end-user's estimate is a good one. Since, the pricing issue is not about lowest price, but rather if an item is a

“best buy,” the test for fair and reasonable pricing is about judging the quality of end-user and cardholder market analysis of the price. Therefore, by comparing price estimates submitted by end-users on PRDs to actual invoice prices paid by cardholders, one could determine if end-users or cardholders have achieved a fair and reasonable price determination through accurate price estimation. This is analytical information formulated by calculating the differences between PRD price estimates and invoice actual prices paid. The measurement units are dollars. The measurement criteria would be 10 percent variance between price estimates and actual prices paid, meaning that it is significant enough for further evaluation and interpretation. This also tests whether prices are accurately portrayed. It is based on all price estimates from end-users being internally reviewed by cardholders and authorized by AOs. The researcher sampled 100 PRDs from 1997’s files found in the Systems Management Department at NPS. The summary findings are provided in Table 2.

Most Frequent End-User Most Typical End-User	Administrative Assistant on Faculty Staff Instructor on Faculty Staff
Most Frequent Item(s) Purchased Other Typical Item(s) Purchased	Personal Computer Hardware Upgrades Software, Books, and Office Supplies
End-User Estimated Price Range End-User Average Estimated Price Sample Standard Deviation	\$2,412.00 to \$6.50 \$399.65 \$571.90

**Table 2. Summary Finding of Price Variance of End-User and Cardholder**



Cardholder Actual Price Range	\$2,428.63 to \$6.50
Cardholder Average Actual Price	\$392.22
Sample Standard deviation	\$563.90
Price Variance Per Item Range	\$364.00 Favorable to \$180.00 Unfavorable
Average Price Variance	\$3.49 Favorable
Sample Standard Deviation	\$52.20
Material Price Variances (over 10%)	25 of 100
Causes of Material Price Variances (Note some variances had multiple causes)	56% Poor or No Shipping and Handling 56% Bad Price Estimate 4% Cardholder Found Replacement 4% End-User Math Error 4% Warranty Costs Added 4% Discount Acquired

**Table 2 (Continued)**

## **E. SUMMARY**

This chapter discussed the various methods used for data collection, and descriptive and evaluative analysis. The researcher formulated tests based on four types of evidence: physical, testimony, documentary, and analytical for the program goals (customer satisfaction, rotation of vendors, and fair and reasonable pricing). The raw results of those tests were presented. These results provide evidence of operational effectiveness of each goal within the NPS Purchase Card Program. The effectiveness of the program is a reflection of the quality of the congruence of the key strategic goals. Chapter V provides analysis and interpretation of the collected data, and assesses the degree that the program goals are consistent with each other.

## **V. DATA ANALYSIS AND INTERPRETATION**

### **A. OVERVIEW**

Considering the research methodology, certain analysis can be accomplished with the data gathered. The analytic goal is to assess what happened in the NPS program and compare it to what is expected based on operational goals. Each data collection method varies in terms of accuracy, frequency, susceptibility to manipulation, and bias. However, all data were subjected to the Purchase Card Program model. The material results of the tests of program goals are provided here. This chapter follows three steps for interpreting the data: 1) Describe general trends and findings with the management controls; 2) Assess goal congruence; and, 3) Generate a hypothesis about problem causes. However, this analysis should point out noteworthy as well as negative findings. It is important to publicize a successful program at the installation level too.

The bottom line is that the NPS program is very effective in achieving strategic goals despite perceived problems. While end-users do perceive a problem meeting the goal of vendor rotation while achieving customer satisfaction and a fair and reasonable price, there really are no significant problems found in achieving them, meaning that there were no material problems in meeting all three

goals. There is fundamental goal congruence and the goals are found to be consistent with each other.

## **B. GENERAL**

The NPS case is a clear illustration of how, at the installation level, the management controls for the Purchase Card Program must balance the strategic goals and operational performance requirements of fair and reasonable pricing, vendor rotation, and customer satisfaction. Observation and inquiry of customers through a questionnaire verified success and failure to achieve customer satisfaction.

Success and failure to rotate vendors were verified by direct communication with the APC auditor and counting results of Audit Report findings. Success and failure to achieve a fair and reasonable pricing determination was verified by examining the process of accurate price estimation, the PRD price estimates and actual price paid.

The research primarily validated the model of the purchasing cycle. General findings revealed that the NPS Purchase Card Program is operated by and services experienced civilians as end-users, cardholders, AOs, and APC personnel. Sixty-four percent of the surveyed population have more than two years experience in micro-purchasing. The cardholders at a minimum receive a one-day computer interactive training package and many are professional purchase agents

now making card purchases. They generally know the rules and procedures for using the purchase card for micro-purchases. One hundred percent of end-users ensure that they have funds available, and 92 percent do some sort of market research and price comparison prior to submitting a PRD. However, the customer survey revealed that 68 percent of the end-users perceive that there is actual or potential conflict between program goals, which challenge the managers and users of the Purchase Card Program.

If there are problems to be solved by the cardholder, they involve a general trend of poor documentation for their purchases. The cardholder Audit Report survey revealed that in 10 percent of purchases, cardholders fail to get the AO to sign off on the PRD. Also, 11 percent of the time, the cardholders fail to attach invoices and packing slips to the closed out PRD, and 26 percent of the time, they fail to get the end-user to sign for the delivered item(s).

### **C. CUSTOMER SATISFACTION**

The goal of customer satisfaction is considered a very important goal by end-users. The program is expected to provide end-users easy access to commercially available goods and services, and it does. It streamlines the process for micro-purchases, and speaks directly to the issue of empowerment for end-users as first set-out in Vice President Gore's NPR initiative. The Purchase Card

Program allows customers much more choice than they have ever had. It allows customers the flexibility to use limited resources especially in this time of downsizing Government and budgets. It also opens up the commercial marketplace to end-users as well as allows cardholders to fulfill their social obligations.

The major advantage to those who use the purchase card is that it is easy. End-users get the item they wanted (92 percent), when they wanted it (80 percent), and paid what they expected for it (84 percent). They find the paperwork and process easy and time-efficient to use (76 percent). This shows strong customer satisfaction with the program. It is much easier to operate in the Purchase Card Program than the old method that was paper intensive, highly regulated, and centralized in the Contract Office.

However, only 44 percent of end-users believe that it takes a relatively small amount of time recommending vendors and estimating prices, though they are mostly satisfied with the vendors' quality and service. Sixty-eight percent believe that it takes more than six days to get their ordered products, which is a surprisingly longer time than literature suggests that it should take. If there is room to improve customer satisfaction, it may be found in reducing the time from PRD submittal to end-user delivery by the cardholder. Additionally, while the NPS program operates very effectively, it clearly does not take into account a lack

of program controls for customer satisfaction. The notion that unsolicited customer complaints act to control that variable, is too passive for a management control. There should to be a proactive effort to audit end-users of cardholder accounts.

#### **D. ROTATION OF VENDORS**

Test of this goal shows that there is no problem for cardholders to achieve vendor rotation. Although end-users and the researcher believed that it would be difficult to expect rotation of vendors while maintaining customer satisfaction and obtaining a fair and reasonable price, it is very successfully accomplished at NPS. Overall, the goal of vendor rotation is believed to be unimportant by 64 percent of end-users, and 40 percent believe that the vendor rotation goal has a negative impact on their satisfaction. This perception of vendor rotation being a problem for end-users was not proven. The adverse perception might be due to organizational performance, group functioning, or individual behavior. For instance, an individual end-user sees rotating vendors as a problem, but as a total cardholder account responsibility, vendor rotation is easily achieved. Interestingly, a December 1997 study of the NPS Purchase Card Program found that nearly 100 percent of the time, the cardholder buys from the end-user's recommended vendor. Given, that the typical cardholder is not a commodity expert, it makes sense that

satisfying the customer is achieved by using their recommended vendor. (Yabut, 1997, pp. 42, 50) The end-user wants easy access to vendors. Cardholders gave the following reasons for not using the end-user's recommended vendor:

- The price quoted was unreasonably high;
- The recommended source would not accept the purchase card;
- The poor quality of service on previous transactions; and
- The item was not in stock.

For those occasions when the recommended vendor cannot deliver, cardholders maintain a list of vendors from whom they solicit business when the recommended vendor is unable to deliver. (Yabut, 1997, p. 50)

The research showed that there are good reasons to retain this as a goal. The regulations are designed for achieving a socio-economic goal of spreading business around to all qualified vendors. This is designed to encourage competition in the commercial marketplace and thereby enforce fair and reasonable pricing. However, interviews and the researcher's training show that segregating business among vendors also prevents fraud between any one cardholder and any one vendor. In one of the two cases of a cardholder violating the vendor rotation rule, there is indication of splitting larger orders and having used the same vendor two or three times per day on four different days, and spending nearly \$71,000 with the same vendor in a six month span of time. This

was a single isolated incident, and probably shows the worst case. Clearly, however, NPS cardholders are achieving vendor rotation. Government purchase card business is being distributed throughout a competitive commercial marketplace while satisfying the customer's recommendation of a vendor, and fraud is held in check.

#### **E. FAIR AND REASONABLE PRICING**

The research proved the theory that, DoD benefits from a competitive market, the underlying assumption being that market forces ensure a fair and reasonable price. At NPS, the most glaring problem is that end-users make material mistakes in properly estimating the prices of their purchases. This was determined based on the survey of PRDs. Twenty-five percent of the cardholder's purchases had material errors in the fair and reasonable pricing determination. The two biggest reasons for these errors are poor shipping/handling estimates, as well as basic price estimates. Yet the dollar amounts of these favorable and unfavorable errors balanced each other out. The net difference is considered insignificant. It actually averaged to a \$3.49 favorable error. The estimated and actual prices for items were very similar as evidenced by their standard deviations, or observations distributed similarly around the mean prices.

For pricing, the cardholder's role is critical. While no single cardholder can influence the market price of commercial items, they can influence the relationship



with quality vendors and use of discounts. When soliciting a price quote from a vendor the typical questions asked are: 1) What is the price? 2) Does the price include shipping? 3) How soon can the item be delivered? 4) Are there any additional discounts that the vendor will provide for using the purchase card?

Admirably, 64 percent of end-users consider shipping and handling costs in their estimate, and 92 percent look for discounts on the purchases that they request. Sixty-eight percent look for service warranties and guarantees for the items that they request. Fifty-six percent of end-users consider delivery timeliness more important than price. Finally, the research shows that 48 percent do not consider the goal of fair and reasonable pricing to have any negative impact on customer satisfaction at all. The program achieves both goals without material conflict.

To improve the fair and reasonable pricing process there should be a planning phase to the micro-purchase decision. This requires knowledge of the market, competition, and new products. The cardholder must determine that a vendor has not included tax on the purchase. The vendor can not build tax into the price. The cardholder controls this by asking the vendor, then comparing prices through published price lists, or catalogs, or competition. The fair and reasonable pricing determination is based on a comparison of actual and estimated costs. This provides feedback on the accuracy of the price estimation.

The billed price can differ from the quote or sales receipt for a number of reasons. First, cardholders should determine whether the difference in price involves shipping and handling or a tax charge. The addition of these two charges to the price cannot be disputed to the purchase card company. The cardholder must contact the vendor and ask for a credit and pay the charge as it stands in the SOA. This is why it is important for the end-user and cardholder to ask the right questions when making a purchase. They must always ensure that the purchase is tax exempt and includes shipping/handling.

Shipping/handling charges must be justified. The cardholder should always try to negotiate Freight On Board (FOB) destination where transportation charges are not assessed. If it is not an option, the cardholder should consider looking for another source that will provide the same supplies for a reasonable price and not charge the transportation charges. Or, transportation charges should be included on the bill, so that they appear on the SOA as one charge.

#### **F. SUMMARY**

This chapter provided analysis and interpretation of the data. The NPS Purchase Card Program is very effective in meeting the program goals. There is a high amount of goal congruence. However, there is a lack of management controls for ensuring customer satisfaction, and fair and reasonable pricing. The

existence of program goals compels the users of a program to comply with them as a matter of policy. However, not requiring those who operate the program to document or have some other form of control that can be tested, in effect, makes that particular policy objective irrelevant. Looked at another way, if streamlining the program is important, then removal of an unmeasured policy objective is probably a logical action to take. Program goals are in place to ensure that “things are done right.” The purpose of this chapter was to interpret the data and assess whether those things are done right, and are they congruent with each other or in conflict with each other. Chapter VI will discuss the conclusions and recommendations of this research, and answer the research questions.

## **VI. CONCLUSIONS AND RECOMMENDATIONS**

### **A. OVERVIEW**

This thesis evaluated the effectiveness of The Navy/Marine Corps Purchase card program in achieving three key strategic operational goals: customer satisfaction, rotation of vendors, and fair and reasonable pricing. By modeling the Purchase Card Program process, and examining it in the context of the management control system, specific emphasis was placed on determining how to further streamline the program and enhance operational effectiveness and efficiency. The researcher's intent was to recommend legislative, executive policy and agency regulation changes where impediments to further streamline the program exist.

Foremost, this research established and validated a model for the purchasing cycle as an accurate description of the Purchase Card Program and a useful tool for evaluative analysis. Each goal was operationalized as a measurable variable to indicate levels of material achievement, goal congruence and conflict. The researcher's hypothesis was that the ex-ante control for a Government imposed socio-economic objective, rotation of vendors, would naturally cause conflict in achieving the post-ante controls for customer satisfaction, and fair and reasonable pricing. The researcher initially believed that a policy that imposes

vendor rotation would cause too many ambiguities, contradictions, unreasonable prices, slow procurement times, and disappointed customers. The opinions of end-users substantially support this premise. However, given the way that NPS manages the program, cardholders achieve appreciable levels of vendor rotation without imposing controls for the end users to do so. In fact, cardholders almost always use the vendor that was recommended by the end-user, which contributes to customer satisfaction. Additionally, the policy acts to prevent fraud. As well, the act of switching vendors occasionally causes the “vendor pool” to be more customer service oriented overall. This chapter presents the conclusions, provides recommendations and answers the thesis questions. The researcher does have a critical concern that the NPS Purchase Card Program, which is used as the primary example, is a phenomenon given its award winning status and unusually large number of cardholders. As such it may not be representative of many organizations. This concern along with others comprises areas for further research.

## **B. CONCLUSIONS**

The Purchase Card Program is creating a major cultural change for procurement people, who have traditionally done the buying, and end-users. The new culture is such that buys for less than \$2,500 are no longer considered as

conventional Government contracting. An entire large contracting area of Simplified Acquisition Procedures (SAP) has been put out of business, decentralized out of the Contracting Office. Federal acquisitions for less than \$100,000 are being demystified.

### **Conclusion 1**

The Purchase Card Program is very effective in achieving strategic goals despite perceived problems. There is fundamental goal congruence and the goals are found to be consistent with each other. There is certain dissatisfaction among customers who perceive conflicts between customer satisfaction, rotation among qualified vendors, and fair and reasonable price. However, these negative perceptions among customers did not prove to be true for the individual cardholder accounts.

### **Conclusion 2**

The Purchase Card Program presented in this thesis is an accurate description of the purchasing cycle for the purchase card user. The model can be used to isolate program goals and further evaluate them for effective achievement.

### **Conclusion 3**

End-users or customers of the Purchase Card Program perceive vendor rotation as potentially disruptive and in conflict with "more important goals" of customer satisfaction, and fair and reasonable pricing. This is despite the same

customers being very satisfied with the Purchase Card Program. The function of vendor rotation is performed by the cardholder, who has no problem achieving vendor rotation goals. The business judgment exercised by the cardholder is enough to achieve customer satisfaction, vendor rotation and fair and reasonable pricing.

#### **Conclusion 4**

Transportation and shipping charges contribute to the greatest errors in making a fair and reasonable pricing determination. This determination is probably best left to the cardholder. The cardholder can solicit discounts from the vendor and negotiate the transportation and shipping charges.

#### **Conclusion 5**

While there are a material number of errors in fair and reasonable pricing determinations, the number that are favorable and unfavorable generally balance each other. When considering the dollar amount, the error is immaterial and is caused by inadequate fair and reasonable pricing determinations. The Government is effectively making best value micro-purchases, which considers price, warranty, delivery schedule, and discounts that are better or equal to those offered to a non-government buyer.

## **C. RECOMMENDATIONS**

The Purchase Card Program must be both effective and efficient. The research revealed that there is the perception of potential conflict between program goals, which challenge the managers and users of the Purchase Card Program. It also pointed toward recommended corrective actions for improving the program.

### **Recommendation 1. Customer Satisfaction**

The purpose of the Purchase Card Program is to empower the end-user or customer by permitting him to fill his requirements much more quickly. Customer surveys should be periodically performed to test if the program “puts the customers first.” The NPS program is successful because the cardholders try hard to maintain high quality service to end-users. Using the tri-annual PMR, every Navy and Marine Corps Purchase Card Program should be evaluated for its ability to provide an environment that commits APCs, AOs, and cardholders to better serve their end-users.

### **Recommendation 2. Rotation of Vendors**

Similarly, the APC Cardholder Audits should continue to monitor whether there is actual rotation among vendors. This provides a service for the local businesses that comprise the vendor pool, and incentivizes those businesses to



maintain the highest level of quality and service. Additionally, it acts as a preventive control against fraudulent behavior by isolated cardholders.

### **Recommendation 3. Fair and Reasonable Pricing**

The PMR should also evaluate whether end-users are accurately estimating prices. This test would indicate the level of training in price estimation that might be necessary. The extent of training may vary from a quarterly cardholder information memorandum for end-users, to more personalized training for those end-users who request a large number of purchases.

## **D. ANSWERS TO THE RESEARCH QUESTIONS**

### **Primary Research Question**

**How can the Navy and Marine Corps Purchase Card Program ensure the strategic goal congruence of customer satisfaction while rotating procurements among vendors, and achieving fair and reasonable pricing?**

Management controls are the key to creating conditions, which improve the probability that goal congruence will be achieved. Navy and Marine Corps Purchase Card Programs must control for customer satisfaction, vendor rotation, and fair and reasonable pricing. However, it would be a mistake for the Purchase Card Program to be overly focused on control. The effective NPS program shows this to be a relatively simple task. However, some new controls should be instituted, while others continued.

### **Subsidiary Research Question 1**

**How is a fair and reasonable price determination made when there is a requirement to rotate purchases among qualified vendors?**

The fair and reasonable price determination is a natural occurrence of the open commercial marketplace. The commercial environment generally offers goods and services that have several vendors in a large market that compete for business. This competition causes prices to be lower and interchangeability of item(s) to be higher. Add to this that Government end-users are buying in an environment of tightly constrained resources. To maintain their available resources, they are motivated to perform a level of market research that assures them that they have a price, warranty, delivery schedule, and discounts that are better or equal to those offered to a non-Government buyer. Ultimately, a determination of fair and reasonable price and vendor rotation is a matter of practical judgment made by the cardholder. If all other vendors of a similar product are so unreasonably out-of-line from one that is frequently used, the cardholder is justified to use the clearly better vendor. However, the NPS case shows that the vendor who is used frequently over a period of time may lower its service to the cardholder. There are examples in which these vendors stopped providing free delivery. When the cardholder switches vendors, there is a tendency for the first vendor to improve its customer service by re-instating free delivery. In effect, commercial market forces and the natural inclination by

cardholders to rotate vendors, form an adequate control of prices and getting the best buy for a micro-purchase.

### **Subsidiary Research Question 2**

**In what ways do customers and cardholders perceive the notion of “rotating among vendors”?**

Does achieving customer satisfaction correlate with a propensity to not rotate vendors? The researcher’s findings suggest it does not, despite the perception among end-users that vendor rotation interferes with customer satisfaction and fair and reasonable pricing. When vendor rotation is well controlled, such as in the NPS program, customer satisfaction remains high, and dollar values of error in pricing determinations are insignificant. The lack of oversight on customer satisfaction and fair and reasonable pricing may make it easier for cardholders to apply more discretion and actually accomplish all three program goals.

### **Subsidiary Research Question 3**

**What is the impact of avoiding fair and reasonable pricing, and rotation of vendors?**

Does it really matter? Are there a material number of fair and reasonable pricing determination errors? The results suggest that this is the case. Twenty-five percent of the time there is a greater than ten percent variance in end-user estimated price and cardholder actual price paid for a card purchase. However, do

those variances add up to a material amount? The results suggest no, there is an offsetting dollar amount of favorable and unfavorable price variances. One explanation for these results might be found by looking at the way that the researcher measured fair and reasonable pricing. The researcher did not subtract out the typical transportation and shipping costs that an end-user failed to estimate. The variance between the base price of items may not be material regarding the total number of errors. The researcher's argument was that transportation and shipping costs are covered thoroughly in cardholder training and therefore, they should be included in pricing determinations. A more reliable measure of fair and reasonable pricing is needed before one can make any conclusive statement about the relationship between rotation of vendor, and fair and reasonable price.

#### **Subsidiary Research Question 4**

**What price reasonableness and market research functions should be expected when conducting business using the Purchase Card Program?**

The administrative cost to verify price reasonableness may more than offset the potential savings from detecting instances of over-pricing. Therefore, action to verify price reasonableness is on an exception basis, and need only be taken if the price is suspected to be unreasonable. The NPS case shows that cardholders use professional judgment based on the price estimate from the end-user, and then checks such things as catalog prices, previous purchases, and advertisements.

Extensive market research is not required by either the end-user or the cardholder, but both people's efforts combine to enable a fair and reasonable price determination through accurate price estimation.

#### **E. AREAS FOR FURTHER RESEARCH**

The final results, although statistically pleasing and encouraging, may be preliminary. Others can use these findings as a foundation for further research. Further research needs to be done on other areas of Purchase Card Program effectiveness, which include:

1. Does the model of the purchase card purchasing process prove valid for a Marine Corps Regional Contracting Activity? Is NPS a phenomenon given its award winning status and large number of cardholders?
2. What are some key contracting techniques to reduce risks and problems when using the Purchase Card Program at the installation level?
3. How do vendors perceive the Governmentwide Purchase Card Program and the goals of customer satisfaction, vendor rotation, and fair and reasonable pricing?
4. What are the incentives and risks for private vendors to accept the purchase card? Are there vendors who do not accept the card, and why? How does card acceptance by a vendor affect customer service and prices?

## **F. SUMMARY**

The research validated the model for the purchasing process as an accurate description of the Purchase Card Program and a useful tool for evaluative analysis. There is a certain dissatisfaction among end-users due to their perceived conflict in the program goals regarding customer satisfaction, rotation among qualified vendors, and fair and reasonable price. Few Contracting Activities measure or control for customer satisfaction as defined by this thesis. Additionally, it is likely that some activities will pay closer attention to the rotation of purchase card business to qualified vendors than to others. Similarly, there is disagreement on how to achieve a fair and reasonable price for purchase card business. The "trick" for the Purchase Card Program manager is merely a matter of using business discretion and finding a balance among the program goals. Each program at the installation level probably needs to find its own balanced application of a control system. Ultimately, the Purchase Card Program presents exciting opportunities with high expectations. However, it also leaves some problems at the installation level for the managers and cardholders to sort out.



## APPENDIX. TERMINOLOGY AND DEFINITIONS

As used throughout this thesis, the following terminology is used as defined in this appendix unless: (a) the context in which they are used clearly denotes a different meaning or, (b) a different definition is prescribed for a particular part of the discussion. (NAVSUPINST 4200.85C, 1997; FAR, Part 2, 1997)

**Agency/Organization Program Coordinator (APC)** - An individual designated by the head of the Activity who shall have overall responsibility for the management, administration and day-to-day operations of the GCPC Program at the activity.

**Approving Official (AO)** - An individual who has under his/her purview a number of cardholders. The AO is responsible for, at a minimum, reviewing cardholders' monthly statements and verifying that all transactions were for necessary Government purchases and in accordance with the Federal Acquisition Regulation (FAR). The AO is normally the cardholder's immediate supervisor.

**Auctioning** - A forbidden practice of going back to one vendor with the price of another in an attempt to get that vendor to lower its price.

**Billing Cycle Purchase Limit** - The spending limit imposed on a cardholder's cumulative purchases and transactions in a given billing cycle.

**Cardholder** - Any individual designated by an agency or organization to be issued a card. The card bears the individual's name and may be used by him/her to purchase authorized supplies and services in accordance with Naval Supply Command instruction (NAVSUPINST 4200.85C), the General Services Administration Contract Guide, the activity internal operating procedures, and the cardholder's delegation of authority.

**Cardholder's Statement of Account (SOA)** - Within five working days after the end of each monthly billing cycle, the bank will send each cardholder a SOA, which lists all transactions made during the current billing cycle.



**Chief of the Contracting Office** - A warranted Contracting Officer who is responsible for managing all technical contracting aspects of the contracting office.

**Commercial Item** - Any item, other than real property, that is of a type customarily used by the general public or nongovernmental entities for purposes other than governmental purposes, and that has been sold, leased, or licensed to the general public.

**Contractor** - May be another Government agency, a required source, a vendor or a merchant. Usually a contractor furnishes services but may also furnish products.

**Delegation of Authority** - Establishes cardholders, and specifies their unique spending and usage limits.

**Designated Billing Office** - The office and point of contact in the activity internal operating procedures to receive the official invoice and, in some instances, make payments against it.

**Dispute** - Disagreement between the cardholder and purchase card company regarding items appearing on the cardholder's monthly Statement of Account.

**Disputes Office** - The office and point of contact designated to assist the activity and the bank in tracking and resolving disputed purchases.

**Documentation** - Sales receipts, quotations, warranties, etc. that show what a cardholder bought and why.

**Dollar Limit** - A cardholder's established spending limit set by the Delegation of Authority. It sets the maximum dollar amount for each single purchase made and for total monthly purchases.

**Electronic Funds Transfer** - Faster, more secure ways of transferring funds in contracts compared to transfers authorized by paper check.

**Financial Summary Report** - The official invoice sent to the designated billing office. This monthly invoice includes a summary of all transactions against all cardholder accounts in the activity.

**Governmentwide Commercial Purchase Card (GCPC)** - A purchase card, similar in nature to a commercial credit card, issued to authorized personnel for acquiring and paying for supplies and services.

**Head of Contracting Activity (HCA)** - The official who has overall responsibility for managing the delegation and use of contracting authority by DoN commands or activities under his/her contracting cognizance.

**Head of the Activity** - The Head of the Activity is the military officer in command or the civilian executive in charge of the mission of a DoN command or activity which has been granted contracting authority.

**Imprest Fund** - A cash fund of a fixed amount established by an advance of funds, without charge to an appropriation, from an agency finance or disbursing officer to a duly appointed cashier, for disbursement as needed in making relatively small cash payments.

**Monthly Billing Office Report** - A consolidated report sent to each agency billing office at the end of the monthly billing cycle. The report summarizes charges by each AO for all of his cardholders.

**Prompt Payment Discount** - An amount taken off the full charge for payment within a set period.

**Property Officer** - An individual who can find out if an item is available as excess property within the activity and if it can be obtained within a reasonable period of time.

**Purchase Card Company** - The purchase card company pays vendors for purchase card transactions, establishes cardholder accounts, prepares the monthly Statement of Account for each cardholder, and prepares other management reports that assist the activity in effectively utilizing funds.

**Purchasing Cycle** - The procedures of "prepare, order, accept, pay" for procuring products and services. The purchasing cycle is controlled effectively by use of the purchase card rules.

**Purchase Order** - An offer by the Government to buy supplies or services, including construction and research and development, upon specified terms and conditions, using simplified acquisition procedures and documentation.

**Quotation** - A specification that indicates price, delivery time, warranties, and any other applicable facts which help you to clearly understand the terms and conditions of the purchase.

**Required Source** - A Government established source of supplies and services that must be checked before going to the commercial sector. Required by law.

**Rotation** - The socio-economic obligation of Government for spreading out orders among several qualified vendors. It forces cardholders to spread taxpayer/public funds around.

**Transaction Type** - The method in which an order is placed with the purchase card. Purchase card buys may be made over-the-counter or by telephone.

**Vendor** - May be a required source, Government agency, a contractor or merchant. A vendor is the source of the products and services for procuring with the purchase card.

**Vendor Pool** - A number of vendors who have been selected to solicit quotations.

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